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New York (State) University

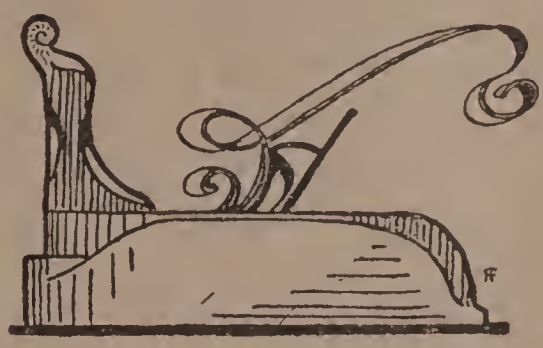
Division of Agricultural and Industrial Education

THE MANUAL ARTS IN NEW YORK STATE

BY

ROYAL B. FARNUM

State Specialist in Art Education



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Since the introduction of the Syllabus for Elementary Schools for 1910, little has been accomplished looking toward the definite and complete organization of the manual arts. The following report presents the conditions which prevail at this time throughout the State and in addition offers preliminary steps in the development and organization of this subject. The treatment is general in character and seeks only to provide suggestions which may lead to further definition of the subject.

PRESENT STATUS OF THE MANUAL ARTS

Organization. At present the organization of the manual arts in a school department varies in different localities. It may employ:

1 A director of the manual arts who supervises all the drawing, manual training and household arts, with assistants.

2 A supervisor who has charge of art and manual work, with assistants.

3 Separate supervisors of art and manual work.

4 A manual training teacher who teaches woodwork in the seventh and eight grades and high school, a supervisor of handwork covering the first six grades, and a supervisor of art.

5 A manual training teacher and a supervisor of art, the latter looking after the constructive work up to the seventh grade.

6 A supervisor of art who offers some construction work, usually only in the lower grades.

The teacher. Where a director is employed a man is usually in charge. He is a technical school or a college graduate with some practical experience. Supervisors of the manual arts in the lower grades are usually women having professional school training. In this State a number of women are employed as shop instructors in the seventh and eighth grades. In some instances

practical men who have worked at the woodworking trade and who have a fair education, with a good command of English, are employed.

The accommodations. A shop is usually a room in the school basement equipped with tools, benches etc. for boys of the sixth grade and beyond. In some cases lower grades are permitted to use it and, in a few instances, the high school crafts classes make use of it.

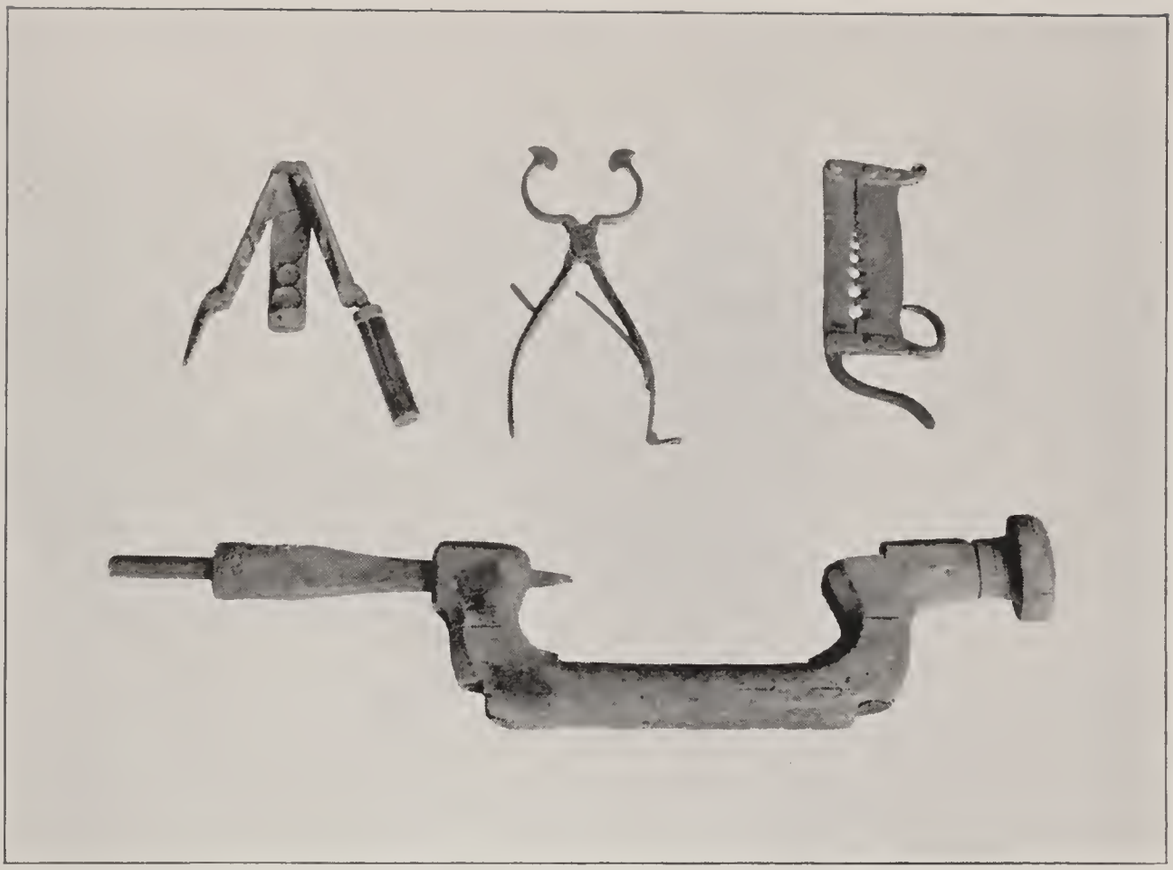
Courses of study generally used. Almost invariably courses in the manual arts above the fifth grade are confined to woodwork. Below this grade the lighter and more pliable mediums are used. The courses in the lower grades are either worked out in conjunction with the drawing outlines or as separate problems. There is more and better correlation as a rule where the first method prevails.

Usually the work in the sixth, seventh and eighth grades is confined to a definite series of exercises and projects in wood, beginning with whittling and ending with a few different personal pieces of furniture.

From the beginning, the courses of study consist of problems involving certain materials whose handling is adapted to the age of the pupil, and processes which offer more or less graded steps in construction. All the projects listed are supposed to be completed by each child, often resulting in a duplication of each exercise equal in number to the number of pupils in the class. Toward the end of the year in the seventh and eighth grades a number of different problems are suggested or the child may be asked to choose something he wants to make.

Methods of instruction in common use. In general, lessons are dictated in the lower grades, and presented in the form of blackboard drawings or blueprints in the upper grades. In some shops rough designs by the boys are submitted before starting on the work. The teacher often talks on tool processes and wood properties in the upper grades while in the first four grades, at least, the various holidays offer suggestions for their problems which may have some application to these events.

Design. For a number of years there has been an attempt to correlate drawing with the manual work in wood, especially in the direction of design. The attempt has been unsatisfactory, resulting only in a slight variation of the original design or a poor ornament forced where it was not needed. With the lower grade construction, the results have been better owing to the fact that so often the work has come under the one supervisor.



Tools of our forefathers from Schoharie, N. Y. A carpenter's brace, a sugar cutter, a button mold, a leather shoe string former. Note the graceful lines and decoration on the cutter and the hint of decoration on the head of the brace.

A beautiful example of woodcraft. A family sleigh of Hendrick Jansen, of Middleburg, N. Y. Made about the middle of the eighteenth century. In addition to the excellent craftsmanship note the beauty of contour and line.

A colonial kitchen in the Quincy mansion, Mass. A study of this illustration will reveal many successful combinations of beauty and utility, which make the work of the early men and women of our country so admirable.

Italian candlestick of elaborate design showing architectural influence. Note that notwithstanding the excess of ornament the construction is plainly apparent.

A carved chair of ancient Saxon make. A problem in woodturning with carved back. Note how the human form has demanded a difference in shape between the seat and the space between the arms and back. The back is not so well designed as other parts of the chair.

A "straight jacket" of Geneseo, made in 1827. Note the suggestion of a decorative panel made by beveling the corners of the frame. Also note the doweled joints.

A convertible chair and table of the beginning of the nineteenth century, from Kingston, N. Y. The simplest of construction has produced a practical object of double utility. It lacks, however, the grace and refinement of the andiron at the right.

Summary. The entire situation may be summarized as follows:

1 There has been little unity of result owing to the diversity of organization.

2 There has been no attempt to relate the work of the early grades to that of the seventh and eighth grades and high school.

3 There has been no attempt to give in eight or twelve years of educational work a general knowledge of all the common mediums developed in sequence from the first grade.

4 There have appeared no effective results of training in good design.

5 There has been no broad or generally useful purpose back of the work other than to provide motor activity so necessary in education.

FUTURE POSSIBILITIES FOR THE MANUAL ARTS

Definition. The following statement defines the term "manual arts" as interpreted in this report. It at least affords a common ground for discussion:

Manual arts is that form of activity which involves the handling and manipulation of any or all constructive materials which may be used in any common public school, which necessitates a proper understanding of common tools and which demands a knowledge of the principles of beauty as applied to constructive design.

Included under this head are manual training, handwork, elementary construction, etc.

Aim. The manual arts in the public schools aim to give to the boys and girls

1 An intelligent understanding of the possibilities and limitations of common, practical mediums.

2 A knowledge of the proper handling of tools and of tool processes required in the manipulation of the material.

3 A practical knowledge of the common laws of beauty required in constructive design.

4 An insight into the commercial and industrial production of familiar forms.

5 Coordination of mind and hand with a fair degree of skill.

6 Initiative in meeting a problem and overcoming it.

Field. The field of the manual arts is limited only by the school itself. Any medium or material which may be handled in a practical way will therefore enter this field. It must be understood, however, that this applies to the common public school, not the prevocational, the vocational, the trade or the special high school,

and in this bulletin it does not include domestic and household arts. Work in the manual arts enters all grades from the kindergarten through the high schools.

Its opportunity. Notwithstanding the present interest in vocational education, the manual arts will always have a place in the curriculums of the general public schools. Its opportunity is fourfold: (1) it is a necessary motor training in general education, and promotes a spirit of service; (2) it forms a basis for a practical knowledge of the common constructive mediums, with a healthy attitude toward labor; (3) it offers occasion for the ultimate development of special classes, prevocational and industrial in character; (4) it affords opportunity for first-hand study of beauty in construction.

Proposed plan. It is proposed to develop the work in manual arts in such a way that there will be progressive courses beginning in the first grade and leading to and through the high school. Different localities must develop individual courses, but two points will be insisted upon from the beginning: (1) all problems shall be constructively sound, and (2) every problem will be considered equally from the standpoint of utility and beauty. In other words, flimsy paper work, when stronger mediums should be used, will be deprecated and erratic designs wrought through ignorance will be rejected.

Problems will not be offered merely for the sake of motor training. There shall be back of the courses an underlying idea and broad purpose running through not only a single year but throughout the completed course. In order that this may be accomplished, certain centers may be developed about which the work will be planned.

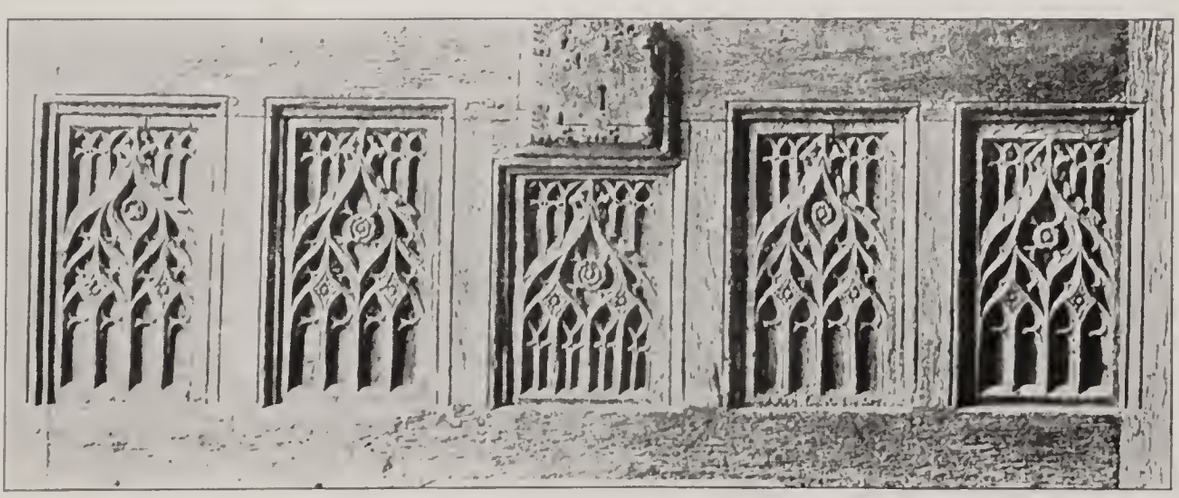
Centers. 1 In the primary grades the following centers are suggested as having been successfully worked out:

Play, or pageantry and games
Home, including foreign homes
Food, including preparation and distribution
Clothing, including personal and foreign costume
Transportation

In these grades the course must necessarily outline specific problems which are largely dictated, but which permit some individual variation.

2 In the intermediate grades the following centers are suggested as having been successfully worked out:

An antique hand chest combining iron with wood and leather. Note how the decorative bands emphasize the constructive features of the iron straps to which the handle is attached.



An old chest with hand forged lock and carved panels. A beautiful enrichment without interference of construction

Chest of Miles Standish. An interesting decorative treatment utilizing woodturning and paneling on a box construction. Note that in no instance does decoration seek to hide construction.

An old money chest of colonial days. Note the decorative effect of straps, rivets, lock etc. as well as the inconsistent decoration of painted flowers and birds.

All those given above for the primary grades
Occupations: (*a*) industrial; (*b*) commercial; (*c*) agricultural
School
Utensils
Mechanics

In these grades some attempt at individual work should be made and pupils should be urged to donate suggestions and ideas based on the center which is under consideration.

3 In the grammar and high school grades the work should become independent, individual and varied. Models and type forms should be eliminated. A general problem should be offered with opportunity for each pupil to approach it in his particular way. The problem offered, however, should have a structural, mechanical or craft significance and such objects as the towel roller, the coat hanger, the blotter rocker, the pen tray, etc. (objects which involve construction peculiar to themselves) should be avoided.

In these grades pupils work with a greater degree of understanding. The work, then, may be offered as follows:

Problems involving types of construction in different materials
    Nailing and riveting
    Joining, molding, etc.
Problems which have an industrial meaning
    Work involving mechanical, electrical, wind and water devices and structural form
Problems involving factory production
    Division of labor
    Jig work, etc.
Problems involving group work
    Big projects with a variety of processes
Problems involving use of power machinery
    Use of labor-saving devices

Planning the course. To plan successfully a course based upon the foregoing, it is necessary:

1 To gain the cooperation of the education authorities in the place. This insures not only kindly interest but more often good suggestions and advice.

2 To gain the cooperation of the lower grade handwork teacher, if there be one. In such a case the whole scheme should be planned together, the shop man contributing his shop knowledge, the grade supervisor offering her teaching experience.

3 To determine upon a definite center or centers to be developed.

4 To hold unhesitatingly to those centers throughout the year at least.

5 To develop the problems in sequence so that educational progress follows; in other words, to relate the work of the preceding grade to the one that follows so that a steady growth is apparent. Thus the shop man will know what to expect of his pupils and the lower grade teacher can intelligently train for the future shop.

Instruction. No single line of instruction should be exclusively followed. Such a course of action would lead to exercises, type models and stale methods which should be studiously avoided.

Proper instruction should include dictation, blackboard drawing, blueprint, drawings, notes, actual work by the instructor, class lessons, individual teaching, free class discussion and a wealth of illustrative material.

The pupil should be led to appreciate the medium in which he is working, its limitations and its possibilities; he should be taught the value of time and the saving of material; he should be told the best and quickest way of doing his work; he should be led to understand the correct use, the meaning and the proper care of his tools; he should be given to understand the value of his schoolmates' time and should be taught to respect it; he should finally be brought to the stage of independent initiative, a point where he recognizes an individual's responsibility to his work in hand.

The education and development of the child is, then, the final end and aim of the work and the manual arts has its peculiar function in the educative process which looks toward this result, a function quite unlike any other of the school subjects.

Equipment. Lack of equipment should have little influence in preventing the introduction of the manual arts in a school system. In the lower grades little is needed. In the upper grades much may be done with a few tools, which may be the means of making more. In fact, there is excellent opportunity here to prove the practical value of the manual arts.

Where the school is permitted to equip a shop, the best tools should be obtained. They should consist of individual sets and single pieces for class use. Smaller pieces of power machinery should also be installed. Much may be said in argument for only hand tools, but in the broad courses herein suggested, pupils will get plenty of hand work. Because of the big nature of the problems it is essential that some machinery also be available. To rip laboriously long boards and plane them by hand, for example, is impractical from the industrial standpoint and a great waste of time. Furthermore, eighth grade and high school boys should know about machinery as an essential part of their manual training.

The shop need not necessarily be in the basement of a building. With modern soundproof floors there is no reason why shops may not be placed anywhere in order that proper light and room may be assured.

Teachers. Teachers of the manual arts should have a natural ability for handwork. They should be inventive and practical and should be able to adapt their work to the community in which they are placed.

Teachers in the lower grades should thoroughly familiarize themselves with the more pliable mediums they are called upon to handle. They should use them in practical ways with as many direct applications as possible. Problems should have lasting value. The making of flimsy and frivolous things to throw away is strongly deprecated.

Teachers in the shops should be thoroughly familiar with the industrial phases of the work they may offer. This means that the industrial and commercial life of the community should be understood and recognized and trade practices in the manipulation of the materials should be known. It is essential, therefore, that shop instructors familiarize themselves with industrial plants, factories, school and trade magazines, books etc., and further that they themselves be practical workers in the different mediums they use in their courses.

Elements of beauty. Many years ago the state of Massachusetts introduced industrial drawing into the schools for the purpose of influencing the character of design in the industrial product. New York State soon followed. Undoubtedly there has been improvement in the beauty of our products of manufacture, but whether this is wholly due to the introduction of drawing is extremely doubtful. In some lines of decoration, however, there is no question as to the direct influence of the public schools. But when one views the average exhibit of manual arts, the elements of beauty seem to have escaped forever. The poorly proportioned boxes, the saw-edged brackets, the curled iron lamps, the meat-block tables and the immovable chairs compel one to gaze without hope on objects from which beauty has vanished.

Beauty is not such an elusive creature that we can not hope to enslave her, even by the children in the public schools. It is as easy to make a chair leg 1⅜ inches square as one 2 inches. It is as easy to make a rhythmic graceful and refined curve as a series of grotesque ridges. It is as easy to make a box based on the

"golden oblong" as one patterned after a square prism. These are simple points but too often neglected.

Before attempting beauty in the problem it is well to apply the principles to the shop itself. Order, balance and harmony are often lacking in the beginning. A neat, orderly shop should be a prerequisite. Thereafter harmony should prevail.

After this, elements of beauty may be considered in the work itself. These elements enter a problem in two ways: they become part of the construction and we term it constructive design; they may appear in applied ornament and we term it decorative design.

Enrichment of construction may be obtained through line, through proportion and through shape. Bevels, tapers and curves may beautify line; variation and similarity, but not duplication of masses, may beautify proportion; and grace of contour may beautify shape.

Enrichment through decoration may be obtained through finishes, glazes etc., through color, moldings, carving, engraving etc., through inlay, weaving, embroidery etc. Decoration in any problem of constructive design must always be subservient to the construction. It must never assert itself. This point alone is too often violated. In general, the decoration must conform to the shape and use of the object. It should follow the general contour and may never hide construction, but rather should emphasize it.

Mediums. The following mediums listed under their handling processes are found practicable for school use:

1 *Folding and bending materials*

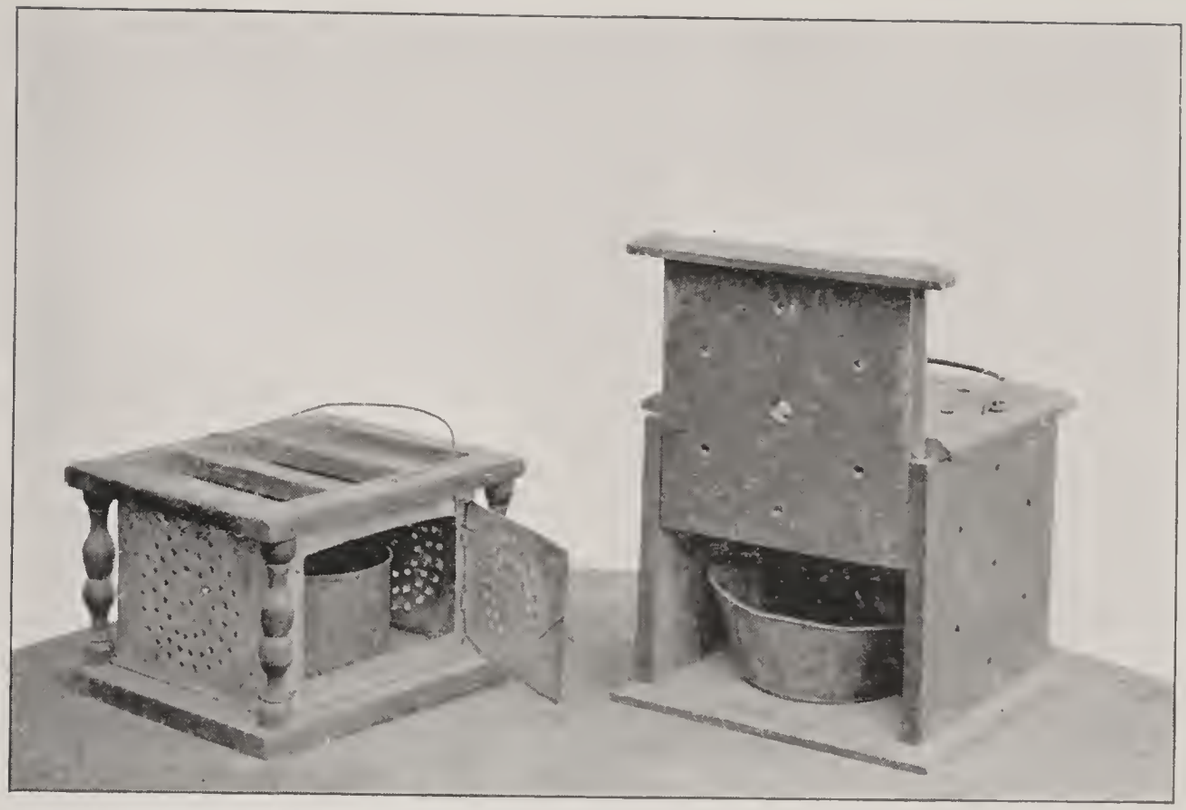
Paper
Cardboard
Soft metals

2 *Weaving materials*

Paper
Leather
Splints
Reed
Raffia
Worsted
Cane
Chenille
Yarns
Roping
Cord
Jute
Thread
Pine needles
Tilo strand

3 *Binding materials*

Paste
Glue
Thread
Solder
Putty
Passepartout
Wire
Nails
Screws
Bolts
Cement



Foot stoves from Schoharie county. Note the mortised construction and the decorative arrangement of holes in the tin and wood.

The cathedral library at Gloucester. Note the excessive ornament in the chairs which tends to banish beauty and suggests weak construction. Contrast this with the simple decorative treatment of the beamed roof and the excellent seat at the right of the chairs.

First grade work in the manual arts having a definite purpose and showing practical application to a broad theme, "The Story of the Knights." Los Angeles, Cal.

4 *Recording materials*

Pencil	Chalk	Type
Crayon	Paint	Wood blocks
Charcoal	Ink	

5 *Modeling materials*

Clay	Plaster	Plastercine
Concrete	Sand	

6 *Building materials*

Blocks	Leather	Wood
Metal	Textiles	Glass
Cardboard	Tablets	

A graduate of a high school certainly, and it is not too exacting to say that graduates of grammar grades, should have a working knowledge of most of these mediums, and a reasonably complete understanding of the six processes.

Illustrative material. As a general rule the dearth of illustrative material in the manual arts is very noticeable. Art departments usually have large supplies, but aside from a few type models and one or two trade exhibits, there is little or nothing in the manual departments.

Perhaps this is a reason for the lack of beauty in the manual problem. To this reason may be added another, namely, the lack of historical background on the part of the teacher. Among manual training men, especially, little is known of the history and development of the various crafts. A study of the great craftsmen from Bazaleel and Aholiab to Cellini and to William Morris, with illustrations and descriptions of great craft masterpieces would necessarily tend to introduce a feeling of the extreme importance of beauty in design.

Illustrative material should consist of pictorial examples of the various crafts, masterpieces both ancient and modern. There should be files of mounted photographs, magazine reproductions and clippings. There should be actual objects, beautiful in color, shape, construction and decoration. Pupils should be encouraged to bring this material. Donations should be solicited. Every school should have its file and museum cabinet if it can not afford a room. Here these valuable suggestions, examples of the best as well as those not so good, should be placed ready for the pupils to see and to study. These exhibits and illustrations should cover the whole field of constructive material and should be a constantly growing collection. The illustrations in this bulletin are examples of what should be found in such museums.

A carved door in Holy Trinity Church, Stratford-on-Avon. Note the simplicity of the carving, the old knocker and latch and the lack of the customary paneling.

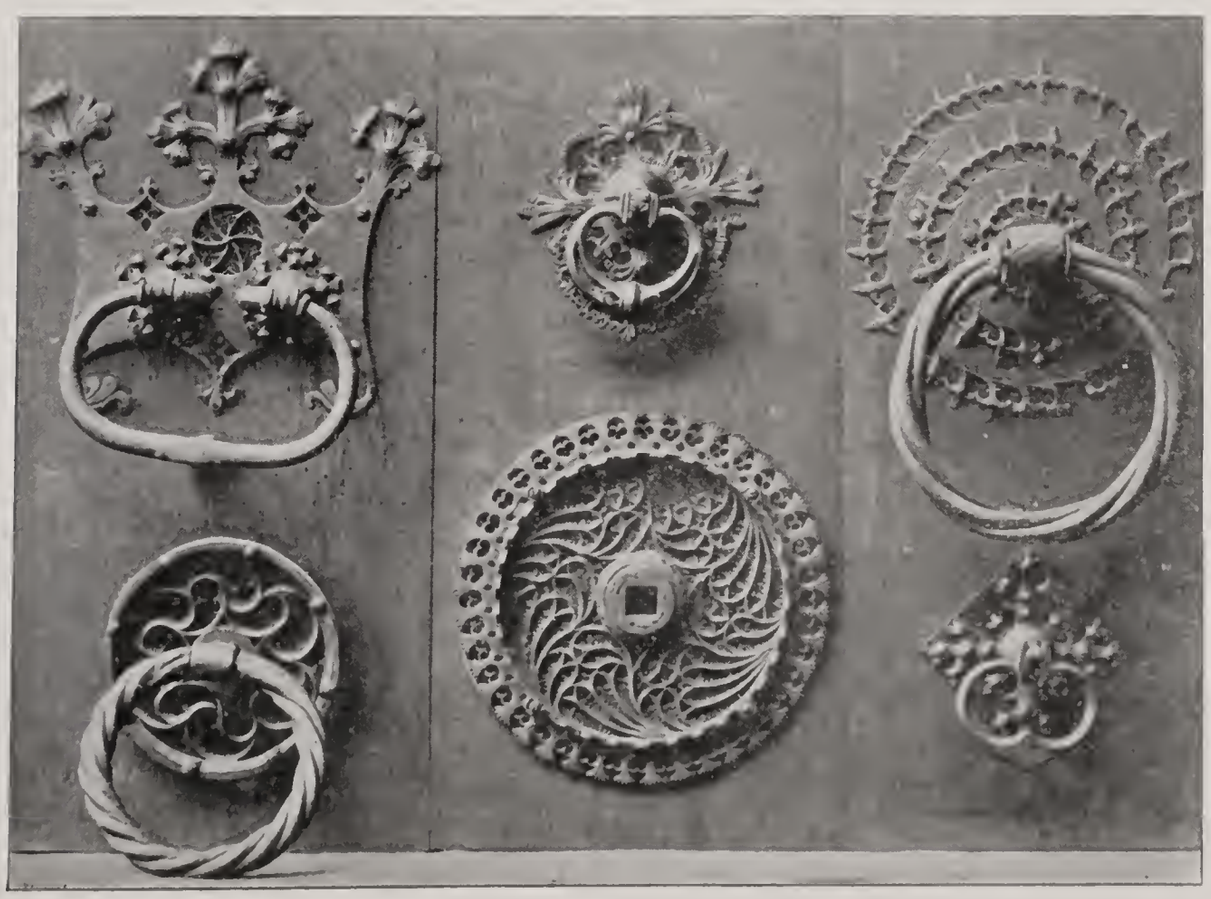
A beautiful Gothic door in Rochester Cathedral. The door has two main horizontal divisions of unequal size and shape. Note how most of the carving centers on and emphasises those lines of division.

A Norman doorway at Cambridge. Note the decorative arrangement of hinges and nail heads. Note also the graceful simplicity of the foot scrapers on either side of the entrance.

A Norman grill gate in Worcester Cathedral. It is typical of the beautiful growth of nature, commencing at the ground with straight sturdy stems, gradually branching and curving as it proceeds until it finally flourishes in a flower at the top. Such consistent treatment underlies all good craftsmanship.

Wrought iron handles from Nuremburg, the home of the finest craft work in this medium. Beauty enhances but does not detract from the usefulness of these objects.

Greek cups in gold repoussé. The straight sides permit of more elaborate treatment than if the contours were curved from the base to the top.



Door handles from Nuremburg. Fine examples of the harmonious union of beauty and utility. Note the consistent treatment of shape in the handles and the plates on which they swing.

Pewter lamps from the collection of Dr George W. Nash, Hurley, N. Y. An illustration offering suggestions but *not copy* for the work in wood or metalturning. Note that in every case the true function or purpose of the object is apparent. These are all wick lamps for the burning of oil. To stick a 40 Watt electric bulb in one of them is unfortunately what many people do today.

Anglo-Saxon gold bracelets. Examples of early craft work with effective repoussé and line decoration.

Illustrations of jewelry from the class of Miss Carrie Harmon, Geneva, N. Y.

Metal work from the high school classes under Miss Nancy Cook at Fulton, N. Y. A practical type of manual arts work.

Applied design in leather under the direction of Miss Nancy Cook, Fulton, N. Y. This work is practical, serviceable and easily handled at a minimum expense. It is a worthy outlet for design expression.

Applied design from the Polytechnic Elementary School, Pasadena, Cal., under the direction of Mr Rudolph F. Schaeffer. This illustrates a sincere correlation between the studio and the shop.

Manual arts work in metal under Douglas Donaldson of the Manual Training High School, Los Angeles, Cal. Note the varied applications of this easily handled manual arts medium.

Manual arts products from the high school classes in St Louis, Mo. Note the many mediums available as practical forms of manual art.

An exhibit of drawing and manual arts in the Polytechnic Elementary School, Pasadena, Cal. Under the direction of Mr Rudolph F. Schaeffer. Note the lack of crowded stuff usually found in such exhibits, and the variety of product.

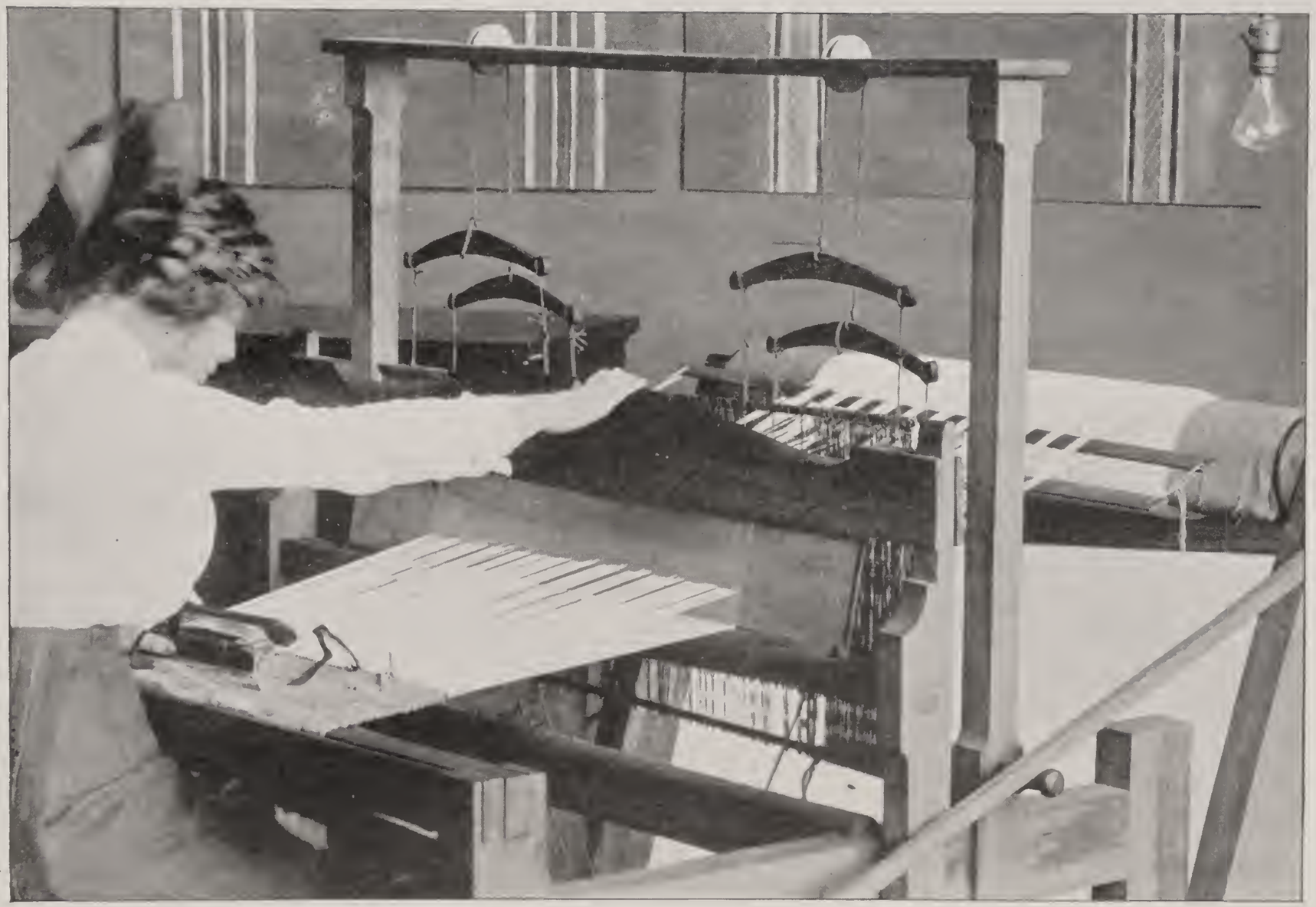
Pottery from the high school at St Louis, Mo. An excellent form of manual art.

Basketweaving in the grades under the direction of Miss Carrie Harmon of Geneva, N. Y. After the stitches and weaving are learned the major part of this work should be accomplished either before or after the present five-hour school day. An excellent form of handwork.

The cradle of Perigren White of Mayflower fame. Note the decorative weaving and firm construction.

Elaborate woodcarving in Kashmir state, India. A richly decorated stand or table of many vertical supports under construction. Note that each individual is working on a different piece and the foreman is doing the assembling.

Men weaving and a woman spinning for Kashmir shawls, Kashmir State, India. An illustration to show primitive weaving and a "home-made" loom. Note also the keyed mortis construction at the corner of the wooden building in the rear, the framing of the house at the right and the decorative treatment of the spinning wheel.



A modern school loom in operation in the East Technical High School, Cleveland, Ohio. Compare this with the loom from India. A practical means of utilizing design and hand work.

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